

Appl. No. 10/734,7653
Amdt. Dated August 10, 2005
Reply to Office Action of May 16, 2005

AMENDMENTS TO THE DRAWINGS:

Please substitute the two (2) sheets of drawings submitted herewith, one sheet containing Figures 4, 5A, 6 and 7 in place of the originally-filed drawing sheet containing the same Figures, and one sheet containing new Figure 5B.

Attachment: Replacement Sheet
New Sheet

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REMARKS

Claims 1, 7-9, 13-17, 19 and 20 are pending in the above application. Claims 2-6, 10-12 and 18 have been withdrawn from further consideration in response to a Restriction Requirement.

Information Disclosure Statement Objection

Paragraph 3 of the Office Action objects to the Information Disclosure Statement submitted December 11, 2003 as failing to include a copy of the foreign patent document cited therein. In response, Applicants submit herewith a new Information Disclosure Statement and a clean copy of GB 1 327 952 for consideration. No fee is believed due in connection with this Information Disclosure Statement as the British reference enclosed herewith was previously cited in the timely-filed original Information Disclosure Statement. However, if a fee is believed to be due, a Petition under 37 C.F.R. 1.97(c) and fee set forth in 37 C.F.R. 1.19(p) accompanies this paper.

Additionally, the submitted new Information Disclosure Statement includes two U.S. published patent applications that inadvertently omitted a "0" at the beginning of the publication number. Accordingly, the publication numbers are now complete and the examiner will easily find copies in the database.

Drawing Objections

Applicants submit herewith a replacement sheet of drawings containing Figures 4, 5A, 6 and 7 to replace the originally-filed drawing sheet containing the same Figures. A new sheet containing Figure 5B has also been included. In the replacement sheet, the angled tracks 60, 61 have been corrected consistent with the specification at paragraphs [0027] and [0041] and claims 1, 9 and 19. Figure 5B shows the "stepped taper" of claim 14, consistent with paragraph [0037] of the specification. No new matter has been added.

Specification Objections

With regard to the specification objections set forth in paragraph 6 of the Office Action, paragraph [0040] of the specification has been amended to provide antecedent

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support for claim 15. Applicant notes, however, that the drawings as filed, which form part of the specification, provided support for claim 15 as the track tapers were shown as being formed out of the same material piece as the outer and inner joint parts.

The specification has also be amended at paragraph [0039] to correct a potential antecedent basis issue with respect to claim 9. No new matter has been added.

Claim Objections And Rejections

With regard to the claim objections set forth in paragraph 7 of the Office Action, 37 C.F.R. §1.75(g) is a permissive rule, not a mandatory rule. Further, independent claims 1 and 9 have a similar, although not identical, claim scope. Hence, the claims as originally presented are both proper and the most practicable given the written description of the various embodiments and the ordering of the embodiments within the description and the figures. Thus, at this time, Applicants see no need for renumbering the claims. However, after allowance, if the Examiner wishes to reorder the claims, the Applicants would not object.

With regard to the enablement rejections set forth in paragraph 9 of the Office Action, the rejections have been overcome by the correction of Figures 6 and 7 to show the angled nature of the ball tracks 60, 61. Accordingly, this rejection should be withdrawn.

With regard to the rejection of claims 8, 17 and 20 under 35 U.S.C. §112, first paragraph, Applicants submit that an enabling disclosure has been provided with respect to the claimed subject matter. Under Federal Circuit precedent, enablement requires that "the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation'." *In Re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993). However, identical language of terms need not be used in the specification and claims. Rather, the scope of the enablement must only bear a "reasonable correlation" to the scope of the claims. See, *In Re Fisher*, 427 F.2d 833, 839 (CCPA 1970). In this regard, Applicants submit that the scope of the enablement provided by the description to one of ordinary skill in the art is commensurate with the scope of protection sought by the claims. The specification at

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paragraph [0029] explains that the cylindrical open end 66, towards the hollow shaft 42, is "sealed by a grease cover 48." The figures also show one example of a sealingly attached grease cover 48 wherein the grease cover 48 is press-fit within the cylindrical open end 66 of the joint 11. Because it is press-fit, however, the cover 48 is also clearly displaceable should the connecting shaft 44, for example, continue traveling through the extended axial range E as shown in Figure 3. Further, the same paragraph describes the grease cap 48 as capable of absorbing energy, i.e., during displacement in a crash event, the grease cap will dissipate some of the energy. Thus, the scope of the enablement is commensurate with the scope of protection sought by the claims and, at a minimum, bears a reasonable correlation to the scope of the claims. In other words, the specification enables one of skill in the art to make and use the full scope of the claimed invention without any undue experimentation. Accordingly, the rejection of claims 8, 17 and 20 under 35 U.S.C. §112, first paragraph, should be withdrawn. Nevertheless, in the interest of clarity, the Applicants have amended the specification at paragraph [0029] to use terminology identical to the terms set forth in the claims as originally filed.

With regard to the rejections of claims 1, 9, and 19 under 35 U.S.C. §112, second paragraph, for indefiniteness, the Applicants have amended each of claims 1, 9 and 19 to clarify that the inner ball tracks and outer ball tracks referred to therein are angled with respect to the rotational axis of the respective joint part. Again, Applicants submit that one of skill in the art would readily understand what Applicants are referring to in these claims because the specification makes clear that the joint under consideration is an axially plungeable constant velocity joint of the cross-groove type. Accordingly, the inner and outer ball track pairs extend in an angled relationship to the rotational axis of the joint. This feature is shown, for example, in Figures 6 and 7. Thus, the claims, as amended, are definite and the rejection under 35 U.S.C. §112, second paragraph, should be withdrawn.

Claims 1, 7-9, 13-17, 19 and 20 stand rejected under 35 U.S.C. §102 as being anticipated by Welschof, U.S. Patent No. 6,171,196. The Applicants traverse the rejections under 35 U.S.C. §102 and submit that a *prima facie* case of anticipation has

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not been established. Figure 1 in the accompanying description of the Welschof reference is relied upon in the Office Action to reject all of the pending claims. Applicants submit, however, that the present claims are novel in view of Welschof because the present claims and the prior art differ. In particular, the outer joint part 12 and inner joint part 13 of Welschof and the corresponding outer and inner tracks 16, 17 lack several of Applicants' claimed features. The outer and inner ball tracks 16, 17 of Welschof are conventional, straight ball tracks – they do not include any energy absorbing mechanism whatsoever. Thus, the outer joint part and the inner joint part ball tracks of Welschof lack the Applicants' claimed feature of "an outer extended axial range" and "an inner extended axial range." Further, Welschof lacks the Applicants' claimed feature of one or more energy absorption surfaces distal to the normal axial range and located within the outer extended axial range upon said outer joint part or the inner extended axial range upon said inner joint part. In contrast, the Welschof device merely has a ball stop 40 on an annular flange 31 which is not part of the outer joint part 12. This ball stop 40 does not form part of the outer ball track 16, nor is it part of the outer joint part 12. Further, the ball stop 40 merely limits the ball travel as the shaft 36 moves toward the left such that the ball 15 can drop off of the inner ball tracks 17. Thus, neither the inner ball tracks nor the outer ball tracks of Welschof include any energy absorption surfaces. Further, the ring 18, which is not part of the inner joint part 13, is described "as an easily destroyable nominal deformation element which, when the plug-in shaft 36₁ is inserted further into the annular flange 31₁, permits the joint to be dismantled so that it can no longer accommodate any axial forces and can no longer transmit any torque." ('196 patent at col. 4, lines 32-37.) This is nothing like the claimed features of Applicants' invention which provides for a controlled energy dissipation during collapse, while maintaining the ability to transmit torque.

Accordingly, Applicants submit that a *prima facie* case of anticipation has not been established as the Welschof reference does not disclose or suggest at least Applicants' claimed feature that the outer ball tracks and inner ball tracks include an outer, an inner extended axial range and that the device include one or more energy absorption surfaces within the outer extended axial range or inner extended axial range.

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Applicants therefore request that the rejections under 35 U.S.C. §103 be withdrawn because the reference fails to disclose or suggest each and every element of Applicants' claimed invention.


Conclusion

Having overcome all of the objections and rejections set forth in the Office Action, Applicants submit that the application and claims are in a condition for allowance. A Notice of Allowance indicating the allowability of claims 1, 7-9, 13-17, 19 and 20 should be issued. The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 377-1200 if any unresolved matters remain.

Respectfully Submitted,

GKN Driveline North America, Inc.

Dated: August 10, 2005

By: 
Jennifer M. Brumbaugh, Reg. No. 48,465
Mick A. Nylander, Reg. No. 37,200
GKN Driveline North America, Inc.
3300 University Drive
Auburn Hills, MI 48326-2362
(248) 377-1200

Attachments